MISSOURI BOTANICAL GARDEN

Bulletin

Volume XLVII
March, 1959
Number 2

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The Missouri Botanical Garden in 1958

COVER: A group of children in rapt attention as Mr. Kenneth Peck instructs them in how to identify the different kinds of trees by their leaves. Photo by Paul Hodges, courtesy *Globe-Democrat*.

Office of publication: 306 E. Simmons Street, Galesburg, Illinois.

Editorial Office: Missouri Botanical Garden, 2315 Tower Grove Avenue, St. Louis 10, Missouri.

Published February, March, April, June, September, and November by the Board of Trustees of the Missouri Botanical Garden. Subscription price: $2.50 a year.

Entered as second-class matter January 26, 1942, at the post-office at Galesburg, Illinois, under Act of March 3, 1879.

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THE MISSOURI BOTANICAL GARDEN IN 1958

F. W. WENT AND HUGH C. CUTLER

THE upward swing of the last few years in the activities of the Missouri Botanical Garden has continued during 1958. Several new appointments were made, garden maintenance was increased and the educational program was expanded, all as a result of increased support from Friends of the Garden and from special and other grants. These advances were reflected in the increased attendance and the excellent spirit of the employees. Yet, much more remains to be done before the Garden is back to its prominent position of the early part of the century.

A number of important changes were made during the year. One of them was the moving of our large and significant orchid collection from the Arboretum at Gray Summit to the greenhouses in the Garden. When the smoke nuisance in St. Louis had become so great that the orchids were seriously damaged, a set of greenhouses were constructed on the newly acquired land at Gray Summit, 30 miles west of St. Louis, and in the summer of 1926 most of our orchids were transported from the city greenhouses to the new range. In his 1926 report Dr. Moore said "although these plants have been in their new environment less than six months, the improvement in growth is little short of phenomenal. Their removal from the influence of the poisonous gases of the city . . . [has caused an] increase in the growth and the health of the orchids so great as to justify the belief that within a few years the Missouri Botanical Garden can compete with the orchid world, not only in quantity and variety, but also in the quality of plants."

Mayor Raymond R. Tucker and the orchid named in his honor, *Cattleya* × *Mayor Tucker*. Photo courtesy *Post-Dispatch*.

All of us were watching with great interest (and some misgivings) the outcome of the move back to the city during the spring months—February to July. Thus far it seems that most plants have tolerated the now-clean city air without setbacks and our orchids are in excellent condition. As a token of appreciation of the Garden for our regained clean air a new Cattleya hybrid produced at the Garden was named "Mayor Tucker" for his magnificent fight and signal success in combatting and conquering the St. Louis smoke problem.

Some fans and evaporative coolers have been installed in the greenhouses now occupied by the orchid collection to keep temperatures in those houses down during the hot summer. Yet some plants, such as the Miltonias, are suffering from high temperatures, which are higher in town than at Gray Summit.

Another important improvement at the Garden was the extension of the educational program. Both Dr. Norton H. Nickerson and Miss Josephine Davies have joined our staff in the education department this year. The number of courses now offered at the Garden has been increased, and a new children's program for Saturday mornings has been started. The Pitzman Nature Program proved to be very popular, and a total of 230 children received certificates for completing the two 5-week study courses.

This year we had a grant of $30,000 from the National Science Foundation for rehabilitation of Herbarium and Library and a similar amount has been granted for 1959. Dr. Robert E. Woodson, appointed Curator of the Herbarium, and Dr. George Van Schaack, now Librarian, have been active in rearranging offices and collections to make them most effective.

The Systematics Symposium was held on October 24 and 25 and was, as in previous years, a great success. A total of 227 scientists from 61 institutions registered at the Symposium which, because of its size, could not be held in the Museum Building. Instead, the Floral Display House was transformed into a meeting room where, under the joint chairmanship of Dr. Edgar Anderson, Curator of Useful Plants at the Garden, and Dr. Robert L. Usinger, Professor of Entomology at the University of California, a total of 5 talks on the general theme of "Taxonomic Consequences of Man's Activities" stimulated lively discussions. At noon on Saturday a buffet style luncheon brought the participants together in informal discussions. The previous evening, refreshments were served at a Smoker in the Museum Building from 7 to 10 P. M.

Six members of the Board of Trustees accompanied Dr. Went and Dr. Cutler on a trip to botanical gardens in the Eastern United States, for the purpose of studying botanical garden problems in other localities. The fabulous Longwood Gardens, maintained by the Pierre Du Pont Estate (the Longwood Foundation), aroused our envy because of the apparent absence of financial problems. Their displays of flowers and plants are unrivaled. It was gratifying to see there the extent of influence of the Missouri Botanical Garden in horticultural matters. A set of heated waterlily pools were constructed to display tropical water lilies—many of them hybrids developed here by Mr. Pring. The Director, Dr. Russell Seibert, is a former student and staff member of our Garden.

Visits to the New York and Brooklyn Botanic Gardens indicated the degree of tax support so many of our most prominent botanical gardens receive without being hampered by political interference. Of special interest were the restoration of the Lorillard Snuff Mill, now made into

a most attractive restaurant, and the large research laboratory, just completed, both at the New York Botanical Garden, and the educational facilities at the Brooklyn Botanical Garden.

Other educational visits were made by a number of the Garden employees to the Morton Arboretum, the Chicago Natural History Museum, and Garfield Park Conservatories in Chicago.

No report on the activities of the Garden would be complete without reference to a number of supporting organizations. The Friends of the Garden are becoming increasingly important as a source of financial and moral support and as a group of persons ready to help in other respects. At the end of the year they numbered 2,520, and income from memberships amounted to $29,795.06. The Women's Association of the Garden organized a membership drive which resulted in an increase in membership of 287. Several additions to the Garden staff became possible through the increased income from these additional memberships. Also through the Friends of the Garden a publicity head is employed at the Garden.

The Women's Association has increased its activity. Its members have helped maintain the Shaw Tower Grove country house, and have redecorated the Director's Office with telling results. Whenever a demand for help was directed to them they rose to the occasion.

The Horticultural Council has, as in previous years, been helpful in Garden matters, in supplying materials (for instance, for the Rose Garden, which was more beautiful than ever in 1958) and in helping with labeling plants.

Photo by Roy Cook, courtesy *Globe-Democrat*.

Letters soliciting new members for Friends of Garden are checked before mailing by officers of the Federated Garden Clubs of Missouri. They are, from left: Mrs. Earl H. Hath, board member, Mrs. Campbell Alexander, assistant director of East Central district, and the director, Mrs. Hazel L. Knapp.

THE GARDEN, PAST AND FUTURE

Now, at the end of the first century of existence of the Missouri Botanical Garden, it seems fitting to take a look backwards, and to see to what extent the Garden has fulfilled the wishes of its creator, Henry Shaw.

In his will, written in 1885, four years before his death, Shaw stressed three functions of the Missouri Botanical Garden. They should be:

1) "having for the use of the public a Botanical Garden easily accessible, which should be forever kept up and maintained for the cultivation and propagation of plants, flowers, fruit and forest trees, and other productions of the vegetable Kingdom; and a museum and library connected therewith, and devoted to the same and to the science of Botany, Horticulture, and allied objects."

"The director . . . shall employ his energies, that from year to year the institution under his charge shall grow up in efficiency in promoting the ends in view in its inception."

2) "I declare my intention that instruction to garden pupils shall be attended to, both in practical and scientific, horticulture, agriculture and arboriculture, and consider it an important feature to always keep up the ornamental and floricultural character of the garden."

3) "I also declare that scientific investigations in Botany proper, in vegetable physiology, the diseases of plants, the study of the forms of vegetable life, and of animal life, injurious to *to* vegetation, experimental investigations in horticulture, arboriculture, etc., are to be promoted no less than instruction to pupils."

In addition, his will stresses the ties Shaw hoped there would be between Washington University and the Garden; with this particular idea in mind he established a School of Botany at the University.

In many respects the Garden has realized the hopes and expectations of Henry Shaw. It has become not only locally, but also nationally and internationally known. Local interest centers around the garden, greenhouses, and the frequent flower shows, which attracted 250,000 in 1958.

The educational aims of Henry Shaw, especially in the field of scientific Botany, have been clearly achieved in the past years, and it is gratifying to look over the long list of botanists who have received their professional training at the Missouri Botanical Garden. The Garden offers ideal conditions for the training of practical gardeners; and the training for other professions, such as landscape architect, also requires the facilities of a great botanical garden.

Education of children and of amateur gardeners has been particularly stressed during the last years. Gardening and plant growing are among the most rewarding of leisure time pursuits, and thousands of people get a great satisfaction out of learning more about nature by observing it at first hand. The Garden is the logical place to help in these activities, to provide information, import materials and educate to observe and record properly. It is gratifying to hear over and over again how visits to the Missouri Botan-

ical Garden as a child have shaped the interest in plants of so many persons, now recognized botanists, gardeners, or nature lovers.

Development of an organization can only be effective when it is clearly understood what goals have to be achieved. As indicated earlier, Henry Shaw, through his botanical advisors, had a very good idea of what should be accomplished. Development of the Garden actually followed these ideas rather closely.

Now, one hundred years since the founding of the Garden, it is necessary to re-evaluate the original aims in relation to present-day requirements, and to map a course of action, which does not necessarily have to be followed, but which indicates desirable and possible ends. For this reason work has been started on a Master Plan for development of the Garden. Funds for this Master Plan in the amount of $25,000 were provided by the Greensfelder Foundation. The firms of Layton, Layton and Rohrbach, landscape designers, and of Murphy and Mackey, architects, were retained for this Master Plan development.

Compared with last century, attendance at the Garden has increased manyfold and the subsequent development of the automobile necessitates close attention to parking needs and avenues of access. Modern developments in greenhouse construction, especially as regards air conditioning, pose new problems. The almost explosive interest in basic science is another aspect to be considered in the development of the Garden during its second century.

Since its inception many centuries ago, the botanical garden has changed from a simple collection of medicinal plants into a general institution, encompassing

1) living collections, often augmented by a museum of preserved materials

2) facilities for flower shows

3) a herbarium and library

4) a horticultural center, bringing gardeners and scientists together

5) an information center for all plant information

6) a research center, involving botanical and horticultural research

7) a center for plant introduction and for testing of new materials

8) a breeding center, to produce better plants for local conditions

9) a training center for gardeners

10) the teaching of children and adults, both on a professional and an amateur basis

11) the publication of information on plants

12) lectures, being a general center of intellectual activities

13) a good environment for the special interests of historians

Within this framework we will consider some of the activities we must provide for in the Master Plan of our future development.

All greenhouses are old (40–50 years) and for many years were in poor repair. Some of them, such as the Succulent House, the Floral Display House, the Linnean House and the Plant Curiosity Houses were reconditioned and can now be operated satisfactorily for several more years, but

the growing houses, the Fern and Economic Houses and the Citrus House are in such condition that repairs are not warranted any more. The Palm House also would need extensive rebuilding at a prohibitive cost.

With the exception of the boiler house, which is in good condition (except for the oldest of the three boilers), the service facilities are so poor that complete rebuilding is necessary.

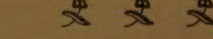
Taking all these facts into consideration, the Master Plan in its preliminary form envisages a complete set of new greenhouses, all interconnected for convenient circulation of the public. These greenhouses will be air conditioned, making it possible to grow plants from all parts of the world, and to keep the plants we now possess under the most advantageous growing conditions. Whereas the importance of air conditioning of greenhouses for scientific studies has been amply proven, it is expected that the air conditioning of the new display house will start a completely new trend, to be followed by botanical gardens and parks all over the world.

Parking space, now not available in the Garden for visitors, will be provided through a parking lot to be contructed at the north-east corner of the Garden, with access from both Tower Grove and Shaw Avenues.

Preliminary plans were prepared for an addition to our research facilities, and an application was made to the National Science Foundation for funds for this addition. This addition, in the form of a wing on the present herbarium and library building, will contain the research rooms for the taxonomists, laboratories for physiologists and ecologists, library space for our most valuable books, a reading room and book stack space, and Director's and Executive Director's Offices.

The grounds are to be developed into special gardens and ecological groupings, using especially the horticulturally most important materials for the St. Louis area. At the same time the park aspects will be developed, with emphasis on the most spectacular flowering plants.

All the other activities of a complete botanical garden, mentioned earlier, are considered in the Master Plan development. Display areas for flower shows, a lecture hall, an entrance building with information center and offices for horticulturists, a school and research building, staff housing and a restaurant are all parts to be fitted into the complete Master Plan of the ideal botanical garden. The entire staff of the Missouri Botanical Garden, from gardener to director, stand ready to implement the Master Plan, and to develop the garden, if possible, even beyond the dreams of Henry Shaw. To this end we need the very active support of the whole St. Louis community.



THE HERBARIUM

A grant from the National Science Foundation is permitting the first major improvement of the herbarium quarters since the present building was erected in 1907. New fluorescent lighting and additional herbarium cases

are being installed. The floors have been resurfaced and the unspeakably dreary brick interior walls will be camouflaged with vinyl paint in attractive shades. The ramshackle chairs and desks, which have been falling apart for some time, will be rehabilitated or replaced. In short, before the year is out, the quarters of the herbarium will appear very much more in keeping with its hard-earned prestige and the value of its famous collections.

But inadequate space presents increasingly grave problems not only restricting the necessary growth of the collections but depriving the staff of equally necessary processing and research rooms. Not only has no additional space been available for the herbarium during the past 30 years: within the past five years it has lost over 10% of its former space (in the Shaw House and the Museum Building) to other projects. As a result, until the past summer all the processing of our herbarium collections was confined to a room approximately 20 feet square! About 50% additional space for processing recently has been obtained through a leger-de-main of compression made possible by the National Science Foundation grant. For the herbarium of the Missouri Botanical Garden this temporary relief is a godsend: for another museum of equivalent size it would be ridiculous. The crisis of the Missouri Botanical Garden is that of the City of St. Louis and of all living things—if it cannot grow, however slowly, it will die.

As for some years past, taxonomic research in the herbarium has centered largely about the compilation of the Flora of Panama, a project also supported by the National Science Foundation. During 1958 three fascicles of the Flora were published in the Annals of the Missouri Botanical Garden, including families Passifloraceae through Melastomataceae of the Engler system. Two additional fascicles are scheduled for 1959. In addition to his compilation of the Flora of Panama, Dr. Woodson has continued his studies of population structures in *Asclepias tuberosa*. Dr. Dodge has continued his studies of Antarctic and tropical African lichens, and Dr. Dressler has pursued various topics in Euphorbiaceae and Orchidaceae.

Dr. John D. Dwyer, Research Associate at the Garden and Director of the Department of Biology, St. Louis University, using the research facilities of the Garden herbarium.

Photo courtesy THE EDUCATIONAL FOCUS.

Six graduate students of the Henry Shaw School of Botany of Washington University have conducted their research in the herbarium during 1958 two of whom, Miss Kay Raeder (A.B., Pomona College) and Donald G. Rhodes (B.S., Southeastern Missouri College), received the degree of A.M. at the June commencement. Presently resident graduate students and the families of their dissertation research are: Lorin I. Nevling, Jr. (A.B., St. Mary's College; A.M., Washington University)—Thymelaeaceae; Henry J. Kaltenthaler (B.S., Pennsylvania University; A.M., Washington University)—Rubiaceae; William C. Burger (A.B., Columbia University; A.M., Cornell University)—Moraceae; Howard Pfeifer (A.B., State University of Iowa)—Aristolochiaceae.

A heartbreaking loss to the herbarium and the Garden as a whole was sustained by the death in September of Miss Margaret Carroll, for a number of years the herbarium secretary. Miss Carroll's duties have been transferred to Mrs. Irene Buersmeyer who formerly was employed at the Naturmuseum Senckenberg, Frankfurt, Germany.

HERBARIUM RECORDS—1958

Specimens accessioned: 807 sheets from 8 institutions

Specimens mounted: ca. 5,000 sheets

Exchanges sent: 1,161 sheets to 8 institutions

Exchanges received: 4,599 sheets from 17 institutions

Loans sent: 7,161 sheets to 32 institutions

Loans received: 1,113 sheets from 11 institutions

Approximate total specimens in the herbarium: 1,717,160 sheets

RESEARCH IN USEFUL PLANTS

Four graduate students in the Henry Shaw School of Botany have spent part of their time carrying on research work under the guidance of Dr. Edgar Anderson, Curator of Useful Plants. Mr. Hugh Rouk, who has been engaged in research, teaching, and administration in Ethiopia for the last six years, is back in the United States for a Sabbatical year and is carrying on basic research on variation in wild and semi wild Ethiopian coffees. Mrs. Erna Eisendrath has continued her investigations of Polianthes and of the history of botanical illustration with particular reference to the Garden's splendid collection (started by Henry Shaw) of 17th and 18th century illustrated monographs ("botanical Icones"). Mrs. Hazel Rouk has begun graduate studies in botany and is studying Ethiopian spices under Dr. Anderson's direction. Mr. William L. Murdy, who has been working jointly on fossil plants and maize has spent the major portion of the year analyzing variation in the stiffening and supporting tissues of the maize plant under the direction of Dean Henry N. Andrews, Jr., of the Henry Shaw School of Botany, and Dr. Anderson.

Dr. Anderson and Dr Hugh C. Cutler, Executive Director, have both continued actively in their research programs related to prehistoric and modern maize. The National Academy of Sciences' Maize Committee (of which they are both members) devoted

Photo by Dick Coffin.

Mr. Michael J. Wynne examining and measuring specimens of prehistoric maize.

to collecting and describing the multitudinous varieties of maize in the New World, is now drawing its international project to a close. Mr. G. Edward Nicholson Calle, Fellow of the Guggenheim Foundation for 1958-59, was in St. Louis working with Dr. Anderson and Dr. Cutler before spending two months in South America where he undertook various jobs for the Maize Committee in Bolivia and Columbia. Dr. Anderson spent somewhat over a month in Bogotá, Colombia, during the summer on the same project. In November the Garden was official host for one day to a group of scientists who are engaged in this maize project.

Dr. Cutler, with the support of a National Science Foundation grant is continuing with the description and identification of the world's collections of prehistoric maize, aided by his technical assistant, Mr. Michael J. Wynne. Mr. Wynne was a winner in the 1958 National Science Fair competition, where he exhibited some of the material with which he has been working at the Garden. He is now an undergraduate at Washington University, majoring in Botany. During most of the summer, Mr. Robert Bird, as part of his work in botany at Cornell University, worked with Dr. Cutler and Dr. Anderson on projects in the field between Botany and Anthropology.

LIBRARY

In addition to its normal activities the library undertook an extensive binding program and considerable rearrangement of quarters. These projects, largely made possible by a grant from the National Science Foundation, will put hundreds of valuable but previously unbound volumes in good condition for preservation. The change in quarters provides better working space both for users of the collections and for those caring for them. In particular, the major bibliographies have been relocated with the card catalog in a new and more convenient area. Book purchases for the year were much greater than in the recent past, several important journal sets being completed and other large treatises obtained. But all this is only an initial attack upon the large backlog of incomplete files, inadequate shelving and poor physical condition of the collections. In particular, our very valuable rare book and folio collection is still most inadequately shelved, with many books in desperate need of rebinding or other major repair.

EDUCATION PROGRAMS

Much activity has been provided during the past year for school children 7 to 19 years old. During the Spring and Fall, an estimated 8000 children and adults walked the Tree Trail. In the Summer months, the Pitzman Nature Program offered four courses in the natural sciences covering birds, animal and insect enemies, trees, and other plants. Two 5-week sessions were offered and of the 350 children who attended, 60% registered for all four courses. Individual classes contained as many as 65 children, and were instructed by officials of the St. Louis Audubon Society and Garden Staff members. (See Cover.)

In October, 535 children from neighboring schools received instruction on bulb culture. Each student was given two Paperwhite Narcissus bulbs to plant and take home.

The newest education program, which started in December, offers Saturday morning activities for children. This program will be scheduled for every Saturday morning of the year and covers many phases of botany and horticulture. The weekly attendance average in December was 70 children. No fee was exacted for any of these activities.

For adults, courses in bulb forcing, plant propagation, horticulture, spring flowers, orchid culture, and technical botany were taught by Clarence Barbre, Dr. Edgar Anderson, Robert J. Gillespie and Dr. Norton H. Nickerson, and other members of the staff.

ORCHID DEPARTMENT

During 1958 the orchid collection was moved from Gray Summit back to the city Garden. The actual moving of plants began in February and was completed in July. The move was made under the direction of Robert Gillespie, in Charge of Orchids. Arranging and organizing the collection in town occupied the orchid staff during the remainder of the year. Elimination of duplicate plants reduced the number of plants to about one third the number formerly kept at Gray Summit. A large number of valuable plants new to our collection were acquired during the year, including a group of 56 new "botanical" species. The collection now has more genera and species than ever before.

The Cattleyas, Cymbidiums, Paphiopedilums, Dendrobiums, Vandas, and most of the "Botanicals" seem acclimated to the new location and have produced excellent vegetative growths and flowers.

Dr. Hugh C. Cutler (left), executive director of the Garden, and Lad Cutak, greenhouse superintendent, unload orchids which are being moved back to the city from the Arboretum at Gray Summit.

Photo courtesy *Globe-Democrat*.

The 1958 Orchid Show was one of the largest orchid shows ever staged by the Garden. A massed bank of Cattleyas provided the brightest color spot but interest of the many visitors was centered mainly on the large collection exhibited for the first time by members of the Orchid Society of Greater St. Louis, and the large and unusual display of orchids from the Garden's collection.

PLANT INTRODUCTIONS

Between four and five hundred species and/or varieties of hardy outdoor plants are now growing in the Experimental Greenhouses and nursery. During 1958, approximately two hundred and twenty-five new species were received as seeds, cuttings or plants from exchanges, gifts, and purchases. Many of these plants have been propagated and will be selected for trial for hardiness, growth characteristics, and for experimental study. The most promising plants will eventually be incorporated in the Garden for display. More than one hundred new plants or replacements were planted in permanent locations in the Garden during the Spring and Fall planting seasons of 1958. The plant introduction and trial work is carried on by Horticulturist Ed Evinger.

GREENHOUSES

All greenhouse and display activities are under the direction of Greenhouse Superintendent Ladislaus Cutak. Plantings in the main greenhouse range were replanted and thinned because some of the plants were spreading out of bounds. This work was done by Al Mielczarek. Fog systems for cooling and raising humidity were installed in some of the Exotic Houses for the orchid collection from Gray Summit. One of the sheds adjoining the Display House was renovated to serve as an Orchid Laboratory by scraping and painting the walls, installing electric lighting system, and constructing benches and shelves.

The house formerly used for citrus trees is now used for the plants grown by the Greater St. Louis Chrysanthemum Society for their exhibit in the annual Chrysanthemum Show.

The waterlily collection, which forms an outstanding attraction during the summer months in the outdoor pools, required a great deal of preparation in the early part of the year. The propagation of waterlily tubers starts in January and continues for several weeks until several hundred potted plants are obtained for our own use. Nearly a hundred lilies are needed to adequately plant the pools. A preseason display of waterlily blooms was kept open during April in the indoor tanks. The waterlilies were planted outdoors on May 12th and remained in the pools until late October.

The rockery in the old Curiosity House was torn down to make an effective staging for orchid displays.

EXHIBITIONS AND FLOWER SHOWS

The number of shows and the extent of our displays continue to grow.

Photo by Paul A. Kohl.

The 1958 Chrysanthemum Show in the Floral Display House.

Some of the more important displays were of poinsettias, orchids, azaleas and other spring flowers, hydrangeas, and chrysanthemums. Competitive shows were held for daffodils, African violets, roses, spring flowers and vegetables, cacti, fall flowers and garden products, and dahlias. A constant succession of interesting flowering material is shown in attractive settings in the Display House and adjacent greenhouses. While most of the work for competitive shows is done by the societies which stage them, there are many jobs connected with these which must be performed by the greenhouse and grounds crews. A new event in our Display House was the Junior League Show "Master Cat," which was given for children on October 18th and was well liked. Flowers grown at the Garden were taken to Christ Church Cathedral for the annual Henry Shaw Flower Sermon given April 20th by Rev. Theodore O. Wedel, Canon of Washington Cathedral and Warden of the College of Preachers. The growing of plants for special displays and

the design and installation of most special exhibits is supervised by the Garden's Floriculturist, Paul Kohl.

MAINTENANCE

Engineering

Under the supervision of Engineer Kenneth Smith and Assistant Engineer James Hampton, the usual good maintenance and repair work on the heating plant and equipment was done. Installation work on boilers in the Museum, Shaw House, Administration Building and Experimental Greenhouse was completed, electric outlets in Floral Display House added, the orchid lab prepared, fans in greenhouses added, and the Curiosity House and Bromeliad House completely overhauled.

Grounds

The effectiveness of the Grounds Maintenance program, under the direction of Grounds Superintendent Louis Brenner, was demonstrated by their good condition throughout the season despite the only minor increase in labor. Change in grounds management technique, together with a revised system of labor deployment, have enabled effective and economic maintenance.

The winter months, early spring and late fall of the year were again devoted to removal of trees considered to be of little botanical value, in poor health or crowding more valuable specimens. Some were removed to provide better lighting of conservatories.

During sub-zero weather, rainy and snowy days, the Grounds Crew did maintenance work in the Experimental Greenhouse, Shaw Residence, Museum Building and in the Plant Conservatories and Growing Greenhouses.

Lawn areas are continuing to improve and many lawns, as in the knolls, were remarkably fine throughout the

Photo courtesy *Post-Dispatch*.

Janet and Sylvia Peck, daughters of Mr. and Mrs. Kenneth Peck, among the daffodils at the spring daffodil show.

year. A continued program of fertilizing, weed spraying, mowing and seeding will provide similarly excellent lawns throughout the Garden.

The Rose Garden flourished in the rather cool summer of 1958 and the abundance of blooms attracted many visitors. Much of the beauty was the direct result of help from a group of volunteers, under the direction of Miss Betty Lou Custer. They carefully removed old flowers and kept a succession of bloom in the Garden. Insects and fungal disease, especially Blackspot, were effectively controlled with the use of high pressure (600 lbs. per sq. in.) fog to apply fungicides. In this manner complete coverage, even on outlying borders, is quickly and efficiently obtained. Over 1000 gallons of spray material were applied to keep the Rose Garden in fine flowering condition. Heavy mulching of beds with wood chips and pecan shells greatly reduced maintenance problems and so preserved natural soil moisture that it was unnecessary to irrigate at any time during the growing season.

The increase in special social and educational activities at the Garden have made ever increasing demands on the Grounds Maintenance Crew, who have the task of moving and setting up properties necessary for such functions. Improved technique in management of the grounds, particularly extensive use of deep mulches, and of herbicides, the redesign of plantings to permit more efficient use of machinery, and effective deployment of labor have made it possible to help with such social and educational activities without overloading the work schedule of the Grounds Crew. The appearance of the grounds continues to improve.

INFORMATION CENTER

Mr. George Pring, Superintendent, and Miss Isabella Powell, Friends of the Garden secretary, maintained our information Center at the Main Gate, Miss Powell answering questions, selling books and pamphlets which tell about plants, and doing all the secretarial work connected with the Friends of the Garden. Mr. Pring answered numerous requests for expert information, appeared on television and radio programs and gave a number of lectures. He visited Longwood Gardens as a consultant for their new waterlily pools. Many new books and pamphlets are now available and the number of people who come to the Information Center for special publications on plants is increasing.

ATTENDANCE

The number of visitors to the Garden continued to increase. The turnstiles at the Main Gate recorded 240,960 visitors, 23,521 more than last year, and in addition an estimated 9,640 used the Cleveland Avenue gate or entered through the Alfred Avenue service gate. Turnstile figures for the past four years are:

1955	156,297	1957	217,419
1956	198,472	1958	240,960

SHAW HOUSE

Each weekend members of the Eighth District of the Federated Women's Clubs of Missouri served as hostesses, greeting visitors at the Shaw House and helping to create an air of hospitality. During the week, except for the months of December, January and February, Mrs. Walter Millan and Mrs. Will Wagner were hostesses.

Photo courtesy *Globe-Democrat.*

1958 Veiled Prophet Queen, Carolyn Lee Neidringhous, daughter of Mr. and Mrs. Lee I. Neidringhaus, with bouquet of Orchids presented by the Garden. The Queen and her two special maids, Miss Jeanne Behrens and Miss Mary Stephens Jones, held a special audience for children in the parlors of the Shaw House, Saturday, October 11.

ARBORETUM

Superintendent of the Arboretum, Frank Steinberg, has continued, by virtue of his intelligent planning, efficient use of equipment, and old-fashioned hard work, to keep the Arboretum in excellent condition and reduce expenditures. The area about the Pinetum Lake has never looked so attractive and the circular drive through this area is open to cars daily. The longer drive past the dogwoods, redbuds, and many drifts of naturalized daffodils to the trail house and wildflower trails was open to cars for the six weeks in April and May when the flowers were at their best.

Mowing the large grass areas, pruning trees and removing dead trees, and maintaining the roads takes most of the time of Superintendent Steinberg and his assistant, Emil Diener. Most of the farmland on the south bank of the Meramec River is under Soil Bank and Soil Conservation plans which yield a cash return, improve the land, and require very little labor.

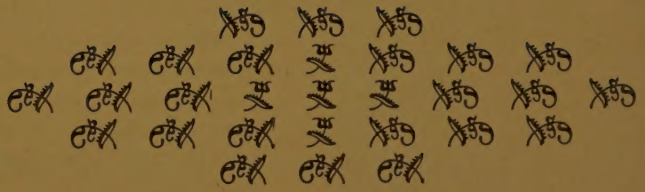
A PICTURE OF THE GARDEN

Mr. Frank McCready has spent many days during several years in the creation of a colored film of the Garden. His projections of this film to groups in St. Louis and neighboring cities has helped to spread the knowledge of the many beautiful and instructive aspects of the Garden.

NATIONAL COUNCIL OF STATE GARDEN CLUBS HEADQUARTERS

In December the offices of the National Council Headquarters opened with Mrs. Earl Hath as Executive Secretary. With about 400,000 members in nearly 13,000 clubs, this is the larg-

est gardening organization. Their headquarters here establishes St. Louis as the gardening center of North America. Some work remains to be done on the building. The formal dedication will be held May 10th.



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SOME FACTS ABOUT SHAW'S GARDEN

The Missouri Botanical Garden (the official name chosen by Mr. Shaw) carries on the garden established by Henry Shaw over a century ago at TOWER GROVE, his country home. It is a private institution and has no support from city or state. The old stone walls and cast-iron fences, the Linnaean House, the Museum, the Mausoleum, and the TOWER GROVE mansion all date from Mr. Shaw's time. Since his death, as directed in his will, the Garden has been in the hands of a Board of Trustees who appoint the Director.

The Garden is open every day in the year (except New Year's and Christmas) from nine A. M. until seven P. M. spring to fall and until six in the winter time though the greenhouses close at five. TOWER GROVE, itself, Mr. Shaw's old country home, is open from one until four, admission twenty-five cents, with special guides. The Garden is nearly a mile long and has several entrances. The Main Entrance, the one most used by the general public, is at Tower Grove and Flora Place on the Sarah bus line (No. 42). The Park Southhampton buses (No. 80), direct from downtown, pass within three blocks of this entrance and stop directly across the street from the Administration Building at 2315 Tower Grove Avenue. The latter is the best entrance for students, visiting scientists, etc. It is open to such visitors after 8:30 A. M., but is closed on Saturdays, Sundays, and holidays. The step-in gate (more or less concealed by the big Cleveland Ave. gate, 2221 Tower Grove) is nearly always open, and there is a service entrance on Alfred Avenue, one block south of Shaw Avenue.

Since Mr. Shaw's time an Arboretum has been developed at Gray Summit, Mo., adjacent to State Highways 50 and 66. It is open every day in the year and has auto roads as well as foot trails through the wild-flower reservation. There is a pinetum and an extensive display of daffodils and other narcissi which are at their best in April.